PIKES PEAK RADIO AMATEUR ASSOC.

Ø BEAT

COLO. SPRINGS, COLORADO

DECEMBER 1967

DENVER AMATEUR WHO CLIMBED MT. EVEREST TO BE DECEMBER SPEAKER

A radio amateur who obviously enjoys climbing mountains, Allen C. Auten, WØECN, of Denver, will be the speaker at the December 13 meeting of the PPRAA telling, with the aid of slides, of his climb in 1963 to within 1,800 feet of the 29,000 foot summit of Mt. Everest as communications man for that expedition.

Al has given his illustrated talk two times to the Denver Radio Club, the last time at the November meeting of the club, with most enthusiastic audiences for both appearances.

A licensed radio amateur since 1949, Al now holds an Extra Class amateur license and a first class commercial radiotelephone operator's license. Associate editor of "Design News" magazine, he is now vice president of the Denver Radio Club and president of the Colorado Mountain Club and a member of the American Alpine Club and the National Ski Patrol System.

Since developing an interest in conquering mountain peaks in 1952, Al has

(See MEETING)
--On Page Three

TWO COLORADO SPRINGS MEN, NOW IN ANTARTCICA, LOOK FOR LOCAL CONTACTS

Two men from Coloraro Springs now working in the region of the South Pole are asking for some help from any Colorado station for contacting the Springs, according to Rosemarie Lewis, WAØMNL.

They have had phone patches into the city but always from a station many, many miles from the Springs.

Prof. Lewis, from Colorado College is with a Byrd expedition and can only be reached through radio via the McMurdo Sound station, KC4USV. He cannot receive or send mail as he is far from any communications. Any word, such as mail, is received at the McMurdo station, opened, and then relayed to him via a short skip communication setup he has with McMurdo Sound.

Radioman Powell operates out of McMurdo and willbe on 14.285 (plus or minus 10 kc) 0100Z until 1000Z almost every day and particularly on Friday, Saturday and Sunday (Colorado Springs Time.) He would very much appreciate some help in making contacts with an amateur radio station

(See ANTARCTICA)
--On Page Three

Ø BEAT

Published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., Colorado Springs, Colorado.

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The PPRAA meets on the second Wednesday of each month in the Red Cross Center, 1600 N. Cascade Ave., starting at 8 p. m. All radio amateurs and other interested persons are invited.

COPY DEADLINE for the JANUARY 1968 Ø Beat will be December 27, 1967.

Editorials

A 'SAFE' SUBJECT

It is often (and usually) very difficult to write an editorial for a club paper.

If an editor tries "cursading" for a cause or an idea, he is often accused of trying to push his own views, not those of the club. It he doesn't occasionally "crusade" he hasn't the interest of the club at heart.

There is one subject, however, that I feel safe in writing about - that of wishing every member of the PPRAA the best of holidays, with plenty of presents and best of all, the maximum of DX and good contacts during 1968.

Speaking of presents -- better start thinking of the two presents each member owes the club. One present is payment of dues for 1968 - the other is to participate to the fullest in whatever club activity calls for your services during the coming year.

Don't forget - this is YOUR club, it is up to each of you to make it a good one by helping out in club activities whenever you are called on.

As 1967 draws to a close, I want to thank Rosemarie Lewis and those other members of the PPRAA whose contributions and encouragement have helped me make Ø Beat the only kind of a club paper I want to publish---the very best possible. And I'll promise to continue the publication of a Ø Beat of this quality as long as I am editor. When Ø Beat starts to "slip" look for my resignation.

-o-

SLOW-SCAN TV A 'HOT SUBJECT'

Slow scan TV, local interest in which was generated by the demonstrations by "Cop" Macdonald, WAØNLQ, of Boulder, during the 1966 Rocky Mountain Division ARRL convention here, is "very much in the news" these days.

As reported in November QST, the FCC, acting on the part of an ARRL petition, issued a "Notice of Proposed Rule Making" in September in the form of Docket 17736.

The proposal would authorize picture transmission in the 2800-3900, 7200-7250, 14,200-14,275 and 21,250-21,350 bands - (slated to be the Extra and Advanced Class segments) and in 28.5-29.7, 50.1-54.0 and 144.0-147.9 mc. segments.

FCC points out that on-the-air tests run on 14 mc. by amateurs under special authorization since 1966 (Cop was one of those authorized) show that simultaneous transmission of voice on one sideband and video signals on the other could be accomplished by not exceeding the band width of a standard a. m. signal.

". . . The tests conducted thus far have effectively demonstrated the potential

(See EDITORIALS)
--On Following Page

EDITORIALS

(Continued from Page 2)

of slow-scan TV as a communications mode nd the Commission is of the opinion that authorizing this type of emmission will provide additional means for further development of the technical skill of the amateur community," the docket states, in part.

While the December 1 deadline for comments on this matter has passed, it is obvious, from comments on and off the air, that there has been a great deal of discussion regarding this new mode of amateur communication.

In the minutes of the ARRL Executive Committee's November 18 meeting, it was stated that the committee had unanimously voted to support Docket 17736, but had requested, among other things, "that the authorization for slow-scan emission be on a temporary basis for two years so that its use may have full evaluation by amateurs generally."

Frank - WØHWH

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ANTARCTICA

(Continued from Page 1)

near Colorado Springs as most of his contacts for phone patches have been with stations on the East Coast.

Rosie states that she was told after February the only communications with McMurdo will be via Amateur Radio as it will be impossible to get mail in or out due to weather conditions.

If anyone hears any KC4 station, give an answer, even if you don't have a phone patch. Help out with a Colorado Springs contact.

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MEETING

(Continued from Page 1)

climbed 25 Colorado peaks over 14,000 feet; climbed the Devil's Tower in Wyoming four times; climbed Shiprock in New Mexico four times; has spent five seasons in the Canadian Rockies, climbing such peaks as Mt. Victoria, Assiniboine, and Mt. Temple; has climbed Popocatepetl, Ixtacihuatl and Orizaba in Mexico; has climbed Kilimanjaro and the Ruwensori Range in Africa and in 1963 reached Camp 5W at the 27,200 foot level of Mt. Everest.

Al will tell of the activities and his role as communications man during this Everest climb, showing slides of the expedition's climb.

Because of the broad interest of the talk, the meeting will be an open one, and members are urged to bring their families to enjoy the evening.

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SHERIFF THANKS OPERATORS FOR HALLOWEEN HELP

Local AREC operators were thanked in a letter received from Sheriff Earl L. Sullivan of El Paso County, for their help on Halloween in holding down "destruction, vandalism, pranks, etc." that evening as they helped the sheriff's office patrol the Colorado Springs area.

No incidents occured which required any action by the patrolling mobile amateurs, according to George Kowalski, WØGCH, EC.

The letter stated:

"Again this year I was grateful that destruction, vandalism, pranks, etc. was held at a minimum on the night of October 31st and I attribute this continued good record to the able assistance of cooperating agencies working in conjunction with my own personnel.

"My heartfelt thanks go to the Amateur Radio Emergency Corps, the El Paso County Sheriff's Posse, Stratton Meadows and Security Village Volunteer Fire Departments, and all off-duty deputies and others from my department who got on their broomsticks and swished around to ward off evil."

-o-o-o-

FORMER SECRETARY WRITES FROM THAILAND

A letter was recently received from Bill Kraft, W7CMU, secretary of the PPRAA before the Air Force decided Bill's services were "definitely needed" in Thailand. Bill writes:

"Thought I'd let you know about Amateur Radio over here, there isn't any. The bases here have MARS stations, ours isn't on the air because one of the boys

(See THAILAND on Page Five)

ROSIE'S REPORTINGS

By Rosemarie Lewis, WAØMNL

-rr-

Mrs. Nona Whitlach recently joined the PPRAA and Amateur Radio. Says 'way back in high school she thought she would like to learn more about ham radio but never got around to it. Her OM, Lt. Col. Whitlach, is on a tour of duty in Vietnam and Nona and their three daughters are spending the tour here. Nona decided this was a good time to delve into Amateur Radio. She attends code and theory classes and puts me to shame with her FB knowledge of theory.

-rr-

Annabell Meak, KØWZN, Palmer Lake, became interested in Amateur Radio through her son Norman when he was studying the code for a Boy Scout Badge while they were living in Redfield, Iowa.

She first learned of his serious interest in radio when he asked her to help make a flag for their radio club to carry in the Old Settlers Day Parade. The flag was carried by all the members of the club---all three of them.

Ann helped the three boys with their code and decided that Amateur Radio was "for her" as well.

Norman was licensed as KØWZN and Ann received the call KØWZN in 1959 and daughter Caroline received KØWZM. Caroline let her call expire -- but recently received the call WAØLDU.

Ann credits Hal Kirlin, K7HKD-WØAJA, with helping the family in the "learning days" which resulted in getting their first Licenses.

-rr-

Florence Kaplicky, one of the PPRAA's most active associate members during the 1966 convention here, was elected Presiding Officer of the District convention of the Royal Neighbors of America to be held in Colorado Springs in 1968, during the District convention in Canon City in October. Florence, whose Wednesday night baby sitting duties have kept her away from recent club meetings, spent Thanksgiving with her brother and his family in Topeka, Kan.

-rr-

Alice Combs, XYL of Harold, WAØPNR, is attending beautician school.

-rr-

Shirley Kowalski, XYL of George, WØGCH, is attending the Pikes Peak Institute of Medical Technology.

-rr-

Rosemarie Lewis, WAØMNL (who's she?) has been appointed ARRL assistant director by Rocky Mountain Division Director Carl Smith.

-rr-

Jim James of Security has his new general call of WAØTAV. Congratulations, Jim!

-rr-

Frank Craw, Ø Beat editor, reminiscing over "past days" in radio, remembered that it was just about 20 years ago now, while as press and radio officer with the U.S. Army's Philippine Comm - and near Manila, operating as KA1ACF, he had the "dubious pleasure" of working the last amateur station in Peking, China just before the Chinese Reds moved in. Frank says he could hear artillery firing in the background on the phone contact-- was told the amateur intended to destroy his equipment as soon as he signed off.

-rr-

Seaman 3d Class John Summers Jr, WAØHHO, spent his leave with his family and built a phone patch during the visit. John has reported to Treasure Island in San Francisco Bay to attend a Navy school there. He has been keeping in contact with his father, John, WAØHHN, PPRAA president, from the amateur station at Treasure Island. John (Jr.) plans to spend some time with Larry Lewis,

(See REPORTINGS -- On Following Page

REPORTINGS

(Continued from Preceeding Page)

WAØDGL, now at Livermore, Calif.

-rr-

Eldong, WAØERA, and Rosie, WAØMNL, attended the November Denver Radio Club meeting. Eldon met with officials in regard to changing net frequencies due to incentive licensing. Among other guests was Bob Bowers, WAØMQE, who now resides in Alamosa but was attending school in Denver.

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PRESIDENT'S COLUMN

By John Summers, WAØHHN

Another season of the year is approaching--the season of flad tidings and good cheer. Most of us have made new friends via Amateur Radio and have given many hours of time to Public Service. This is the season when many amateurs are thikning of the service they will be giving to the public during the coming olidays.

The meeting for November was, as most know, taken up for the most part by our yearly auction which was a great success, all thanks to KØUDG, Pete, and to KØCEN, Bill, for their fine job of auctioneering, and of course to those of you who did attend and make this auction possible.

I would like to ash each member of the club to put in his sights a goal of securing at least one fellow amateur as a member of the club for the following year. If we would bear this thought in mind, we could double our membership, friendship and closer relationship among fellow "hams," a tie which together we stand, divided we fall. Make this, your club, a monthly retreat from the chores of the day where an eyeball QSO is good medecine for tomorrow.

Remember our weekly code and theory classes held each Thursday evening. Classes are conducted by KØWMD, Wally, and if you are thinking of getting that advanced or extra class tivket, now is the time to come and bring your questions, problems and answers to the "ole pro."

EC COLUMN

By George Kowalsky, WØGCH

There has been some confusion in the past as to who can be an AREC member. I've heard comments such as these: "But I don't have any two meter gear," "I am not a club member," "My job keeps me too busy," etc. In an attempt to clear up this situation, here are some requirements for AREC membership:

1. A firm belief in the Golden Rule and in the "help your neighbor" concept. These are especially important in this age of "something for nothing" and of "Big Brother."

2. Operating proficiency - this is much more important than merely owning a piece of gear. A good AREC member has to know nets, procedures, geography, even topography. When he is called on to be a net control station he also has to be decisive and articulate, as meas as a drill sergeant, as cool as Perry Como and as diplomatic as Henry Cabot Lodge.

3. Emergency equipment and how to operate it efficiently. This also means the ability to repair it and "make do."

4. Time - actually little of this is required. How long does it take to prepare for the possibility of having a fire in your home? The same principles apply.

See me at the next club meeting - or call me - and we will get you signed up.

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THAILAND

(Continued from Page 3)

came up on the amateur bands and the Thailand government took away our MARS frequency.

"There is no equipment for issue from MARS and now here at our base we can't even join the MARS program. They don't have CQ, QST or 73 in the BX, so I'm out of any knowledge except through Zero Beat. I hope Pete or my wife air mail it to me each month.

"I told you I'd let you know what the situation is over here, but there isn't much to say about it.

"Please tell my friends at the club hello for me."

Bill

EXTRA CLASS QUESTIONS

(Continued from last month)

**

How should a wave trap be connected to a receiving antenna to attenuate an interfering signal?

Why are synchronizing pulses transmitted with television signals?

How may an amateur check his transmitter for spurious sidebands?

How can the safe power input to a crystal oscillator circuit be determined?

How is the decible used for voltage and power calculations?

How are transistors biases for amplier operation? How are they biased for cutoff (open circuit) and saturation (short circuit)?

How do N-P-N type transistors differ from P-N-P type? How does their bias differ?

How is the output circuit of a transmitter adjusted to increase or decrease its coupling to the antenna systems?

How do filters attenuate harmonic emmissions?

List several advantages and disadvantages each for Class A, Class B, and Class C amplifier operation.

What are some different types or sources of noise voltages in reception? How is each type generated?

What are the current and voltage characteristcs along a transmission line when it is matched and mismatched?

How do receivers for remote control of objects and regular type communications receivers differ in basic operation?

How will a long and short time constant A.V.C circuit affect reception?

What useful functions does a balanced modulator perform in a radio transmitter?

How does the directivity of an unterminated "V" antenna and parasitic beam antenna compare?

If a crystal lattice bandpass filter has bandwiths of 1.5 kc/s at the 6 db points and 3 kc/s at the 60db points, calculate the shape factor.

What would happen if the grid bias supply of a Class C modulated amplifier was suddenly short-circuited?

How do trimming and padding condensors affect receiver tuning?

What is the phase relationship between the input and output signals in the common-emitter, common-base and common-collector transistor circuits?

How can a transistor be tested for self-oscillation? What precautions should be observed during testing?

How can unwanted VHF resonances in a transmitter amplifier be moved from TV channel frequencies?

A 70 ohm transmission line is connected to a 35 ohm antenna. Calculate the standing wave ratio (SWR), the reflection coefficient, and the percent reflected power. If 10 amperes are flowing in the antenna terminals, what is the current in a transmission line node?

What is a grid-bias modulated amplifier? Should the source of fixed bias have a high or low internal resistance? Explain.

Of what importance is the signal-to-noise ratio of a receiver? At what radio frequencies is this ratio most important?

What are Aurora-reflected signals? If such a signal is heard, what does it sound like?

Define the conversion efficiency of a mixer tube.

How does a cathode-ray tube operate? How should the plates of a cathode-ray tube be biased?

What are some causes of the excessive production of harmonics in r.f. amplifiers? How can these causes be remedied?

What effect does an untuned antenna and transmission line have on a transmitter?

How are phasing condensors used in crystal filters?

(Concluded in next issue)

ADVANCED CLASS QUESTIONS

(Continued from preceeding page)

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A superhetrodyne receiver having an intermediate frequency of 455 kc/s is to be adjusted to receive a signal on 3900 kc/s. What frequencies can the high frequency oscillator be set to, to give a beat signal at the intermediate frequency?

When can a low pass fileter be installed in a coaxial cable without causing a large power loss?

A 70 ohm half wave antenna operating on a frequency of 7300 kc/s is to be matched to a 50 ohm transmission line. Calculate the characteristic impedance of a quarter wave matching section and the physical length of the antenna at the frequency given. What is the SWR between the antenna and transmission line without a matching section?

Power dissipation in what part of a transistor warrants careful observation of power ratings?

Define the shape factor of a crystal lattice bandlass filter.

Compare the pentode, tetrode and triode for use in an amplifier stage. Give advantages and disadvantages of each.

What is meant by describing a radio wave as horizontally or vertically polorized? Which type is most suitable for sky and ground wave propagation?

Which amateur band is the most suitable for daytime communication over a distance of about 200 miles?

Should a voltmeter have high or low internal circuit resistance? Explain.

A transformer with 115 volts applied across the primary terminals has a primary to secondary turns ratio of 10 to 1. If a 5 ohm load is connected to the transformer secondary, the reflected primary impedance is what? How much voltage appears across 1/2 of the turns of the primary?

What functions does a variable-mu tube perform in an r.f. amplifier stage of a receiver?

Compare transistors and tubes. What are the advantages and disadvantages of each?

How do noise limiters operate?

How do inductors combine in series and in parallel? Capacitors in series and parallel?

Define frequency deviation in FM transmissions.

How does the peak-envelope power input of an amplifier used for c.w. compare to the PEP of an SSB amplifier when using the maximum legal d.c. power?

What are the advantages and disadvantages of using the same antenna for receiving and transmitting?

What is the vacuum tube counterpart of: (1) a grounde-base circuit: (2) grounded exciter circuit: (3) grounded collector circuit?

How does the sunspot cycle affect wave propagation? What are the best frequencies to use for day and night, short and long distance communications during the cycle?

How does automatic gain control work? When can it be used for SSB operation? CW operation?

How should a linear amplifier be adjusted for linear operation?

How is the power input of a 100% modulated AM signal related to the carrier power?

Why does a type 6146 tube have 3 prongs connected to the cathode?

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NEW MEMBERS (Oct. - Nov. 67)

Five new members were added to the PPRAA rolls in October and November and the name of a former member is back on the rolls.

New are:

Edward Terrien WØLOT
29 Friendship Lane 473-9467

Steve Parker WNØSIZ
35 Highland Road

(Continued on following page)

NEW MEMBERS (Continued)
James White (Associate)
1321 Bates Drive

Annbell Meak KØWZN
P. O. Box 16
Palmer Lake, Colo.

Gerald Ozburn WØARW
Falcon Route 495-2694
Peyton, Colo.

Back on rolls is:
John Felix Jr. KØSLN
413 Mesa Road 634-7248

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